WHAT IS CLAIMED IS:

1. A method for enhancing color fidelity in multi-reproduction, comprising:

scanning an image to be reproduced, wherein the image contains a digital watermark including color information;

decoding the color information contained in the watermark;

comparing the decoded color information with the scanned image;

generating a correction table from the differences between the decoded color information and the scanned image; and

performing color correction on the scanned image using the correction table.

2. The method of claim 1, further comprising completing the correction table using interpolation and extrapolation.

3. The method of claim 1, wherein the color information comprises color information from sub-sampled smooth regions of the original image.

4. The method of claim 1, wherein the color information contained in the watermark is compressed prior to encoding into the watermark and further comprising decompressing the compressed color information.

5. The method of claim 1, wherein the digital watermark further includes edge information, registration information and information describing the color extraction technique.

6. A method for enhancing color fidelity in multi-reproduction, comprising:

extracting color information from an original image;

embedding and encoding the extracted color information in a digital watermark associated with the original image;

printing a copy of the original image containing the digital watermark;

scanning the printed image containing the digital watermark;

decoding the color information contained in the watermark;

comparing the decoded color information with the scanned image;

generating a color-correction table from the differences between the decoded color information and the scanned image; and

performing color correction on the scanned image using the correction table.

7. The method of claim 6, wherein the step of extracting color information form an original image comprises:

smoothing and sub-sampling the original image;

sorting the samples into smooth samples and edge samples;

quantizing pixel values of the smooth samples; and

compressing the quantized pixel values of the smooth samples.

8. The method of claim 7, further comprising:

representing the edge samples with a special value;

compressing the special values of the edge samples; and

embedding and encoding the special values in the digital watermark.

9. The method of claim 8, further comprising:

providing registration information with the smooth sample and edge sample information; and

embedding and encoding the registration information in the digital watermark.

10, The method of claim 9, further comprising embedding and encoding information describing the smoothing and sub-sampling technique in the digital watermark.

11. The method of claim 9, wherein the step of decoding the color information contained in the watermark includes decompressing the information.

12. The method of claim 6, further comprising completing the correction table using interpolation and extrapolation.

13. The method of claim 1, wherein the scanned image comprises a black and white image.

14. A method of extracting color information for use in a digital watermark, comprising:

smoothing and sub-sampling an original image;

sorting the samples into smooth samples and edge samples;

quantizing pixel values of the smooth samples; and

compressing the quantized pixel values of the smooth samples.

15. The method of claim 14, further comprising:

representing the edge samples with a special value; and

compressing the special values of the edge samples.

16. The method of claim 15, further comprising:

providing registration information with the smooth sample and edge sample information.

17. The method of claim 16, further comprising:

providing information describing the smoothing and sub-sampling technique.